

**WHAT IS CLAIMED IS:**

1. A wireless communication system, comprising:
  - a number,  $N$ , of wireless front end units;
  - a number,  $N$ , of antennae; and
  - 5 a switching arrangement connected between the  $N$  wireless front end units and the  $N$  antennae for permitting any of the wireless front end units to be switched into connection with any of the antennae while also maintaining the remaining wireless front end units connected to respective ones of the remaining antennae.
- 10 2. The wireless communication system of claim 1 wherein said switching arrangement includes  $N$  switches.
- 15 3. The wireless communication system of claim 2 wherein said switching arrangement includes a controller coupled to the  $N$  switches for synchronously controlling the  $N$  switches.
4. The wireless communication system of claim 3 wherein said controller is for switching the  $N$  switches simultaneously.

5. The wireless communication system of claim 3 wherein said controller synchronously controls the N switches using a single control signal.

6. The wireless communication system of claim 2 wherein each of the N  
5 switches is a single-pole switch.

7. The wireless communication system of claim 2 wherein each of the N switches further includes N contacts.

8. The wireless communication system of claim 2 wherein each of the N switches is an N-throw switch.

9. The wireless communication system of claim 2 wherein the N switches are respectively coupled to the N antennae.

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10. The wireless communication system of claim 9 wherein the N switches are each coupled to all of said wireless front end units.

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11. The wireless communication system of claim 9 wherein each wireless front end unit is coupled to all of the N switches.

12. The wireless communication system of claim 2 wherein each of the N switches comprises at least one single-pole-double-throw switch.

5 13. The wireless communication system of claim 1 wherein said switching arrangement includes 2N switches.

10 14. The wireless communication system of claim 13 wherein said switching arrangement includes a controller coupled to the 2N switches for synchronously controlling the 2N switches.

15 15. The wireless communication system of claim 14 wherein said controller is for switching the 2N switches simultaneously.

16. The wireless communication system of claim 14 wherein said controller synchronously controls the N switches using a single control signal.

17. The wireless communication system of claim 13 wherein each of the 2N switches is a single-pole switch.

18. The wireless communication system of claim 13 wherein each of the 2N switches further includes N contacts.

19. The wireless communication system of claim 13 wherein each of the 2N switches further comprises at least one single-pole-double-throw switch.

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20. The wireless communication system of claim 13 wherein a first N of the switches are respectively coupled to the N antennae, a further N of the switches are respectively coupled to the N wireless front end units, and each of the first N switches are coupled to each of the further N switches.

21. The wireless communication system of claim 1 wherein the N wireless front end units are radio front end units.

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22. The wireless communication system of claim 21 wherein the radio front end units are one of Bluetooth front end units, IEEE 802.11a front end units, IEEE 802.11b front end units and GSM front end units.

23. The wireless communication system of claim 1 wherein said switching arrangement includes a controller for assigning each of the N wireless front end units to a respective one of the N antennae.

5 24. The wireless communication system of claim 1 wherein said switching arrangement includes at least one single-pole switch connected between each of said wireless front end units and each of said antennae.

10 25. The wireless communication system of claim 24 wherein said switching arrangement includes a plurality of single pole switches connected between one of said wireless front end units and one of said antennae.

26. A method for sharing N antennae among N wireless front end units, the method comprising:

15 switching any one of the wireless front end units into connection with any one of the antennae; and simultaneously maintaining the remaining wireless front end units connected to respective ones of the remaining antennae.

27. The method of claim 26 including synchronously switching N switches having N contacts each.

28. The method of claim 26 including synchronously switching 2N switches having N contacts each.